Palaeolithic Vessels of Egypt

OR

The Earliest Handiwork of Man

BY

ROBERT DE RUSTAFJAELL, F.R.G.S.

MACMILLAN AND CO., LIMITED
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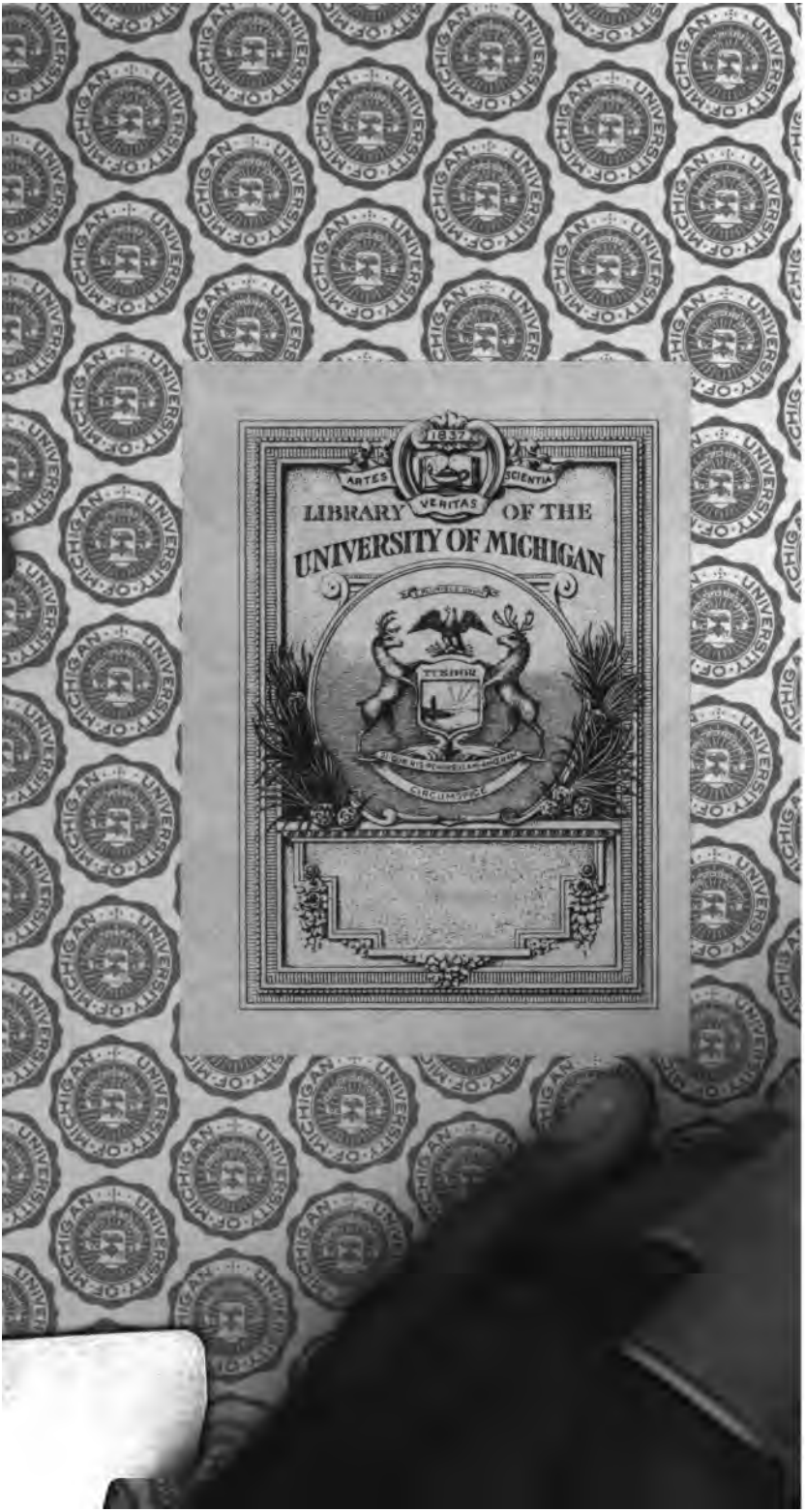
1921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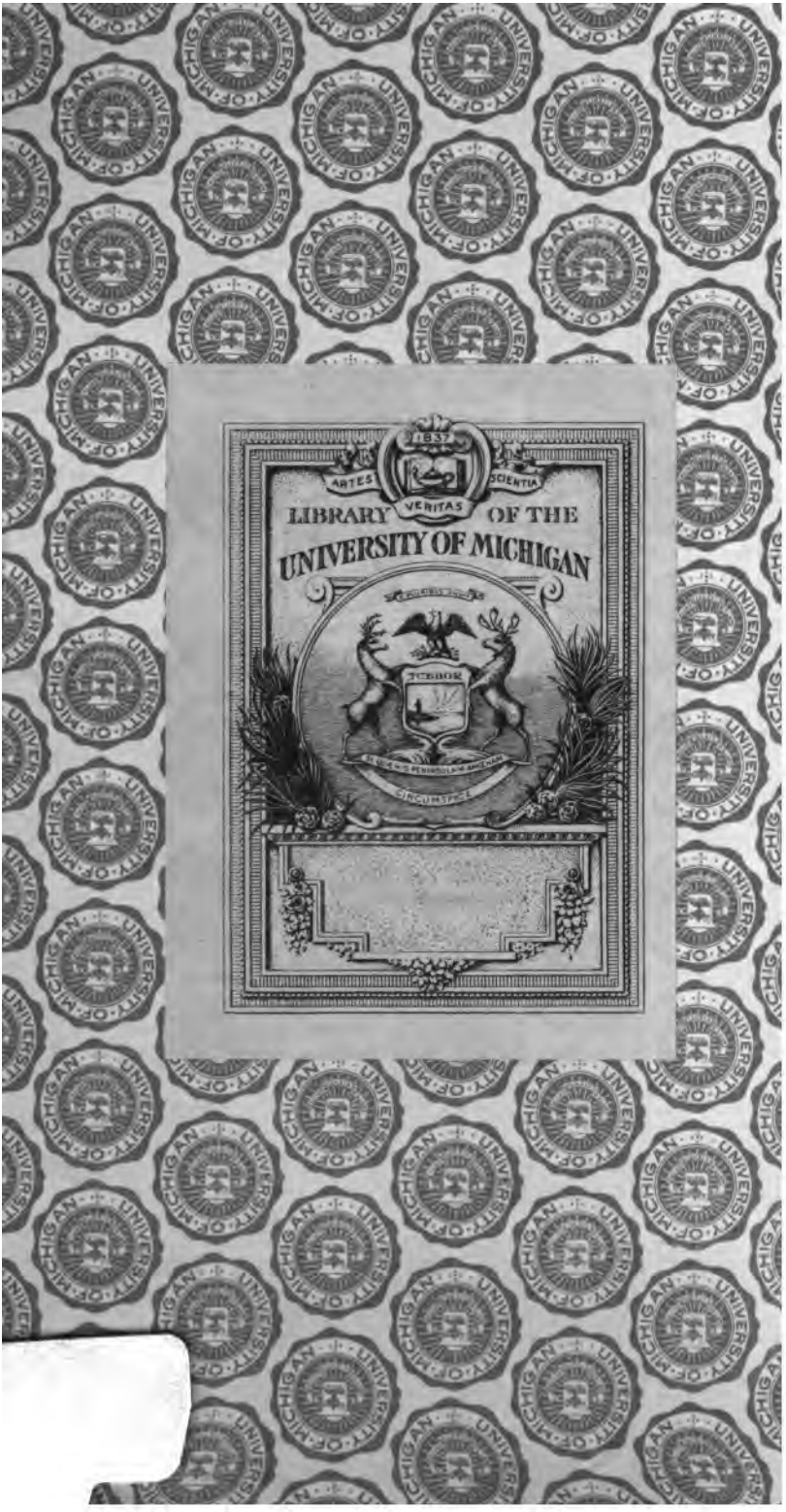
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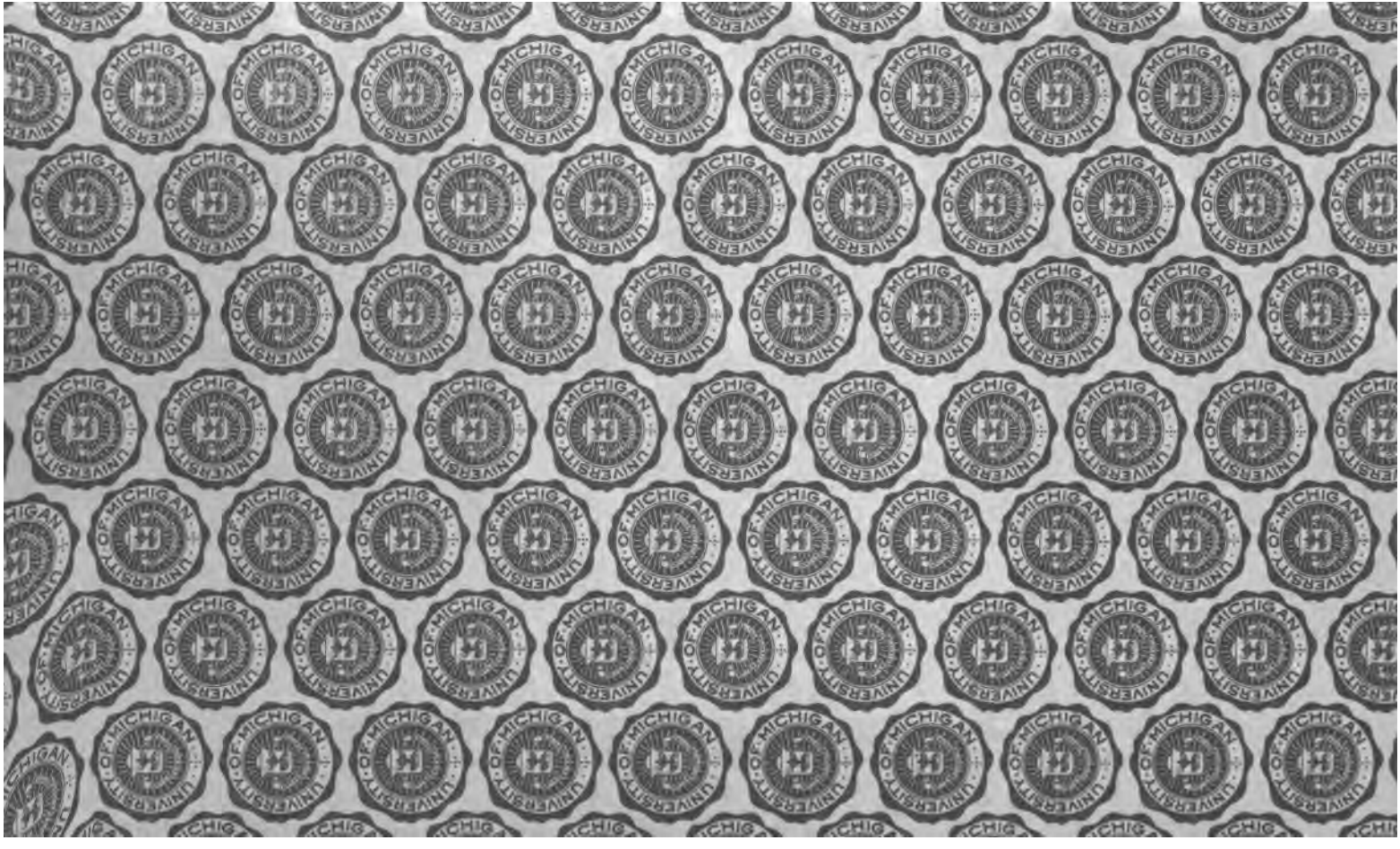
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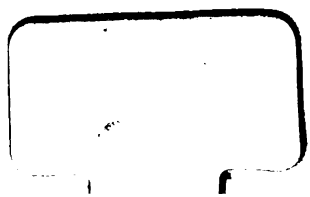

PALÆOLITHIC VESSELS OF EGYPT

BY THE SAME AUTHOR.

REMAINS OF THE MAMMOTH IN THE BEHRING SEA ISLANDS.

London, 1890.

CYZICUS. *Journal of Hellenic Studies.* Vol. XXII.

London, 1902.

THE ORIGIN OF PAINTING ON CLOTH IN EGYPT. *The Connoisseur.*

London, April, 1906.

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PALÆOLITHIC VESSELS OF EGYPT

It was in 1869 that the theory of a separate stone age in Egypt began to take shape in the minds of anthropologists. In that year M. A. Arcelin published his views and about the same time MM. Hamy and Lenormant reported a find of palæolithic flint implements near Thebes. M. Lenormant communicated this discovery in a letter to one of the members of the Academy of Science in Paris, from which I quote his words: "J'ai trouvé," he wrote, "des restes d'un âge de pierre en Égypte. L'existence d'un âge de pierre en Égypte avait été jusqu'à présent contestée." This announcement was followed by long and heated discussions between the leading anthropologists and Egyptologists of Europe and elsewhere, and brought about a division between the two parties regarding the theory of the stone age thus advanced. Most of the latter, with MM. Marietta and Brugsch, stood out against the new position; Professor Schweinfurth wavered; but in 1875 Lord Avebury disproved their verdict and his view was confirmed by Sir John Evans and others. Since then, the well-known discoveries of Professor Flinders Petrie and M. de Morgan near Gebelên and Nagâda have been made, with results too well known to need further exposition here. It is

enough to state that Professor Petrie discovered the predynastic race, and M. de Morgan laid bare the tombs of the earliest known kings and classified the flint implements.

Nevertheless M. Lajard has attempted to throw further doubt on the subject in an article in the Journal of the "Institut Égyptien" of March 1894, in which he gives several reasons why a palæolithic period could not have existed in Egypt. His chief argument is the extreme rarity of pliocene and quaternary alluvium, the depth of the Nile bed where such remains should be, if any existed, and the absence elsewhere of such strata, the presence of which he regards as the surest guide to anthropologists. General Pitt-Rivers, it is true, has discovered implements underground in an exposed section near the valley of the Tombs of the Kings at Thebes, but it is not conclusively proved whether this is a true quaternary alluvium deposit or merely the detritus of the valley itself, combined with an accumulation of sand blown down from the Desert Plateau in the same manner as that which had covered and hid the entrances to some of the Tombs of the Kings.

But in applying to Egypt preconceived theories of evidence —doubtless generally sound from the anthropological point of view in relation to Europe—M. Lajard obviously ignored the difference in climatic conditions and the important fact that the primitive man in Upper Egypt may have been forced by the changes of the river-bed and for self-preservation to abandon the river—where the alluvium deposit exists—and to take to the declivities in the mountains on both sides of the Nile valley. There he would find, not only shelter from attack, but also a relatively much larger field for the supply of the raw material of his implements than the contemporary man under similar circumstances in Europe.

There may, too, have been abnormal cloudbursts in Upper Egypt, which have washed the rough edges of the Desert Plateaux into the tributary "wadies"—valley-shaped declivities in the fractured limestone formation on either side of the Nile [1]—where drift implements are often found. But it must always be remembered that since its general upheaval and the modification of climate during the pleistocene period the country has not undergone any appreciably violent geological revolution, at all events during its occupation by man, a condition of affairs practically unparalleled elsewhere. This alone is sufficient to account for the abundance of undisturbed palæolithic remains on the surface itself.

It is perhaps too soon to dogmatize as to the probability of these theories. But, pending the final decision, any new facts bearing on the question that come to light are of no little interest and may perhaps do something to influence the ultimate verdict.

Numerous flint and chert implements, of what is claimed to be the palæolithic age, found in Europe and elsewhere exist in all the better known anthropological museums and private collections; the British Museum and Saint-Germain have some particularly fine specimens. The "chellèene" implements found at St. Acheul in France correspond in shape and make to the flints of Upper Egypt, but having been embedded in their strata for ages, they have a different patina from their sunburnt Egyptian fellows. It is important to note that there are no vessels of this period in any of

[1] Some authorities claim that these wadies were formed by the action of rain at a time when Upper Egypt had an abundant forest growth. Of the latter fact there is no reasonable evidence. And the thousand streams tributary to the Nile assumed by this theory could have had no land to drain, all beyond being, then as now, a waste desert of sand.

the museums.[1] Now it is permissible to argue that where we find like results, like causes have been in operation. It is well known that flint implements of a character similar in every essential to that of the European examples have been discovered in the deserts of Upper Egypt. Moreover, I have found—always among such flints in the desert—vessels of flint and limestone of a rudimentary shape. The limestone vessels I hold to be the earliest known examples of such handiwork and the direct ancestors of the Egyptian pottery of the neolithic age.

When I left London last January, it was my intention to penetrate into the Sahara as far as the Oasis of Siwa in order to examine the remains of the once famous Temple of Jupiter Ammon, where the Oracle revealed to Alexander the Great the secret of his divine descent from Father Zeus. The oasis lies two hundred miles from the coast of the Mediterranean Sea, and about three hundred and fifty from the Nile; it can be approached either from the sea, a journey, if all goes well of about fifteen days, or from Cairo, a longer and more dangerous route.

On my arrival at Cairo, news came of fighting between two tribes in the neighbourhood of Siwa, and the authorities requested me to postpone my departure until things should settle down again. Having my men, stores, and tents ready, I determined in order not to waste the season to abandon my original design and to explore the desert of Upper Egypt. The country

[1] The existence of so-called "potboilers" no doubt justifies us in assuming such vessels, but none have hitherto been found. At Saint-Germain, there is a nodule with the following label: "Géode naturelle. Ayant subi l'action du feu sur un côté, comme si elle avait servi de vase culinaire." The discoloration bears a stronger resemblance to oxide of iron than to the action of fire. But from the catalogue on sale in the Museum, I was unable to ascertain its supposed use.

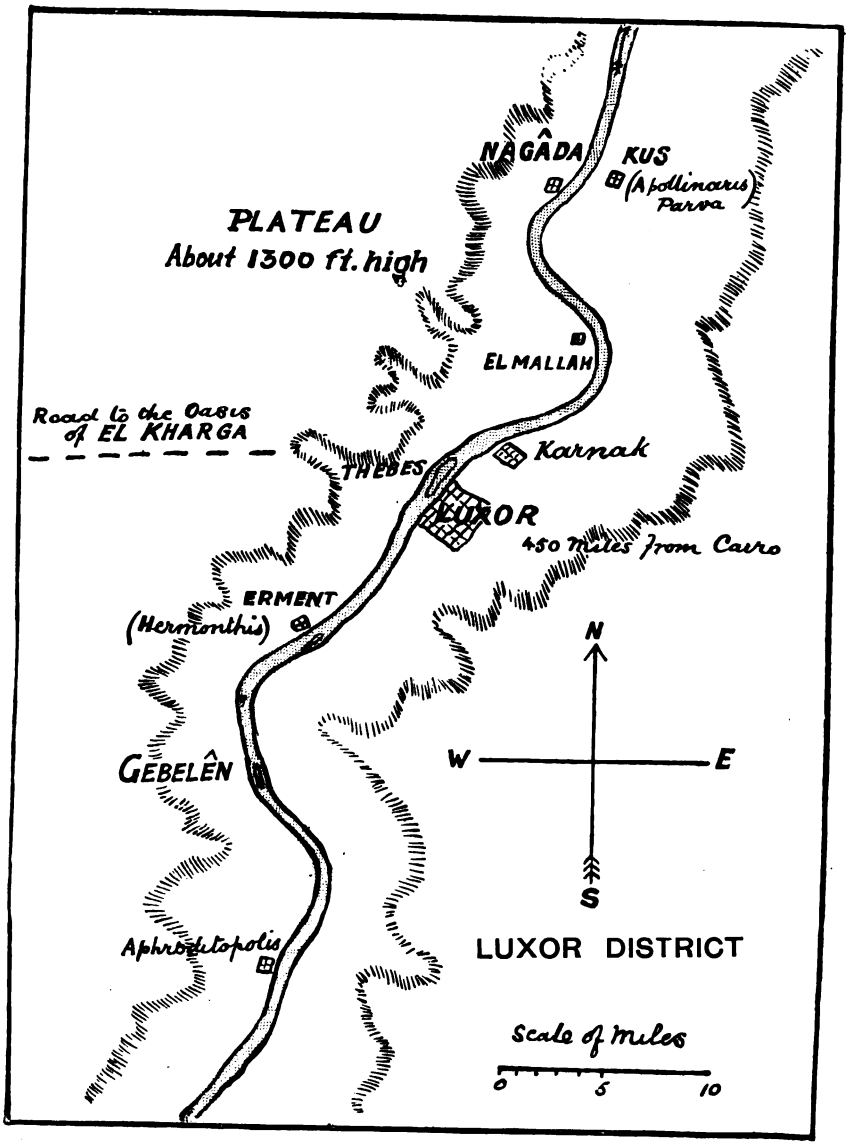

NAGADA
KUS
(Apollinaris Parva)
PLATEAU
About 1300 ft. high
EL MALLAH
Road to the Oasis of EL KHARGA
THEBES
Karnak
LUXOR
450 Miles from Cairo
ERMENT
(Hermonthis)
N
W
E
S
GEBELÊN
Aphroditopolis
LUXOR DISTRICT
Scale of Miles
0
5
10

FIG. 1.

Fig. 1. was taken some little distance from Thebes, amongst the mountains on the fringe of the big Desert, looking west.

Fig. 2. is about thirty miles from El-Mallah, also looking westward.

PLATE I.

Fig. I. is a view of the hills at the back of Nagada, twenty miles from the river, looking eastward.

Fig. 2. A Neolithic flint factory about 20 miles N.W. of Kurna. The factory is on the left hand slope, near the whitish level drift formation at the bottom, where numerous palæolithic flint implements were found.

PLATE II.

PLATE II.

within a radius of fifty miles of Thebes, as everybody, who has followed the work done of late years in Egypt, knows, teems with remains of the archaic age. These I determined to examine further in the hope of lighting on some new facts.

My exploration took me along the left bank of the Nile and into the Western Desert in the neighbourhood of Gebelên, Thebes, El-Mallah, and Nagâda ; the preceding rough sketch and a few photographs will perhaps be of some service in explaining the nature of this country, where in times long before the dawn of history primitive man lived and toiled.

All these stretches of country show the same formation, the Eocene and Miocene limestone deposit, barren of everything but fossils and stone implements mostly of an opaque siliceous flint resembling chert, of which large quantities often lie scattered indiscriminately about the surface. There is something strangely sublime and awe-inspiring in this wild and desolate region, lost in a deathlike silence, a lonely desert under a cloudless sky. And a feeling of involuntary veneration overtakes the traveller as he gazes at these rocks, worn by sand and wind, once the home of a busy race of men, and one of the cradles, it may be, of humanity.

The flints found in this district may be classed under three periods, the palæolithic—these are far the most numerous—the neolithic, and what I may term the mesolithic.

I shall speak at greater length in the sequel of the earliest examples. A few words will suffice to distinguish and describe the others. The mesolithic—so named as being intermediate and transitional between the other two great and extreme ages—consist mainly of well made and sharp-pointed axeheads of about seven inches in length. Their period is conjecturally determined by the consistently better flaking of the

arcuate edges and the uniform pinkish-vermilion and orange-yellow shade of the patina, whereas the distinguishing feature of the neolithic flints is their superior finish and sharp cutting edge, the similarity in colour of their worked surfaces to a new fracture, and their constant association with numerous flakes and cores of flint. They are ordinarily of a creamy-greyish tint without the well-known deep brown patina of the older types and sometimes bear traces as of a slight weathering.[1] I have given no photographs of flints of these two periods as they have no further reference to the main subject of this paper, and for the same reason the older implements themselves found by me are only summarily described.

The "factory" sites of the palæolithic chert and flint implements throughout this district are usually on slightly elevated ground, on the slope of a hill-side or on the table-land of the high plateaux; they are easily recognised at a distance by the æonic sun-blackened and sand-polished surfaces of the nodules, some of the complete implements, wasters, isolated chips and flakes of which they mostly consist. The implements themselves bear a distinct hall mark of age: they are crude in make, never being finished with the same care as the intermediary ones, often of an uncouth form and invariably covered with a deep velvety patina; a fracture reveals the remarkable depth of this patina and the opaque cream-coloured substance of the flint. Many of these flints are discovered in situ—the Greeks call them "Thunderbolt axes" (*ἀστροπελέκια*)—with a portion buried

[1] Perhaps the softer material of the surface structure has been worn away by exposure, or a coating of lime may have adhered to the original flint. Or again, under a severe test the appearance of erosion might prove to be merely microscopic layers of withered fungi, gathered on a fresh fracture where the natural moisture of the nodule would tend to exhale.

PLATE III.

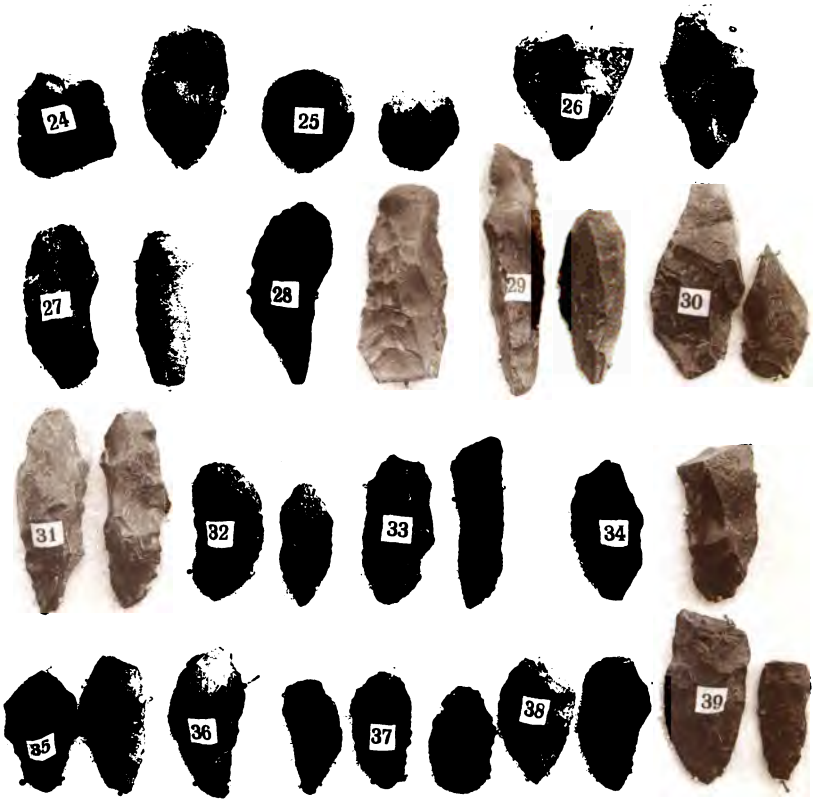
In Plates III. and IV. I have shown a number of the recognised larger types photographed in duplicate, the smaller example by the larger or the more complete by the broken one.

PLATE III.

PLATE IV.

FLINT IMPLEMENTS

PALAEOLITHIC PERIOD EGYPT



SCALE IN INCHES

PLATE IV.

or side protected by contact with the ground. The part thus protected still retains traces of the opaque creamy hue described above, whereas the exposed surface partakes of the general colour of its surroundings.

A couple of natural nodules are shown in Fig. 1, Pl. III, developing by degrees into the more recognised shapes of axes. In Figs. 2 and 3 the butt-ends of the axe-heads still retain the outside crust of the nodule; in Fig. 4 this is only partly visible on one side; whereas in most of the subsequent ones it gives way to a rudely flaked surface. I found several of the hollow scraper types, Fig. 21, both large and small, and all uniformly finished: their exact use is, I believe, unknown. They resemble "spokeshaves" and may have been used for skinning the bark of javelin and lance-shafts or some other round wooden object much used by the men of the day, or perhaps they were used as tanning tools; fixed in the ground or in something firm, with the points of the crescent upturned, they might well have been employed for scraping hair and fat from hides, the strips of skin or thongs being drawn across the sharp edge of the concave side.

Among some of the other types will be recognised borers and pointed axes, Figs. 8 and 13; scrapers, Fig. 19; spear-heads, Fig. 23; a chipped morpholite and a disc in Pl. IV, Fig. 25; hoes and other agricultural implements, knives, lance, axe- and hammer-heads; and choppers for making other flint implements, Figs. 9 and 28, etc.

All these objects are of a type not uncommon in other countries. But a later find made in the same region is of greater interest. We had come upon an undisturbed palæolithic flint "factory" and, wandering among the remains, I found a square-shaped block of limestone with a rough

cavity. Fig. 2 and Fig. 3 show the site where this find was made. In the former the block is shown in the middle of the foreground, rather better focussed than its surroundings.

FIG. 2.

In the latter the vessel is given again with a general view of the site on the hill-slope taken from a greater distance, and in Plate XI, Fig. 10, the vessel itself is shown. At first the weather-beaten object puzzled me and, since it was so bulky and heavy, instead of moving it at once I set myself to consider its origin and uses. The cavity appeared to be artificial. The

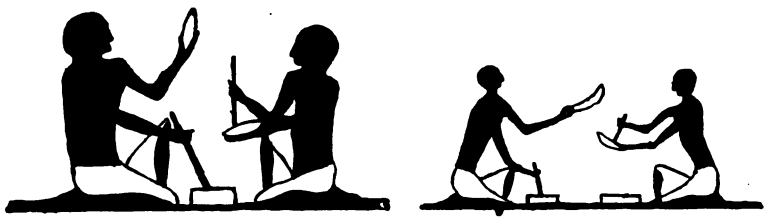
natural use of such a scooped-out stone would be to contain water for the various necessities of man. And here in the midst of this "factory" a possible use for it occurred to me.

In some of the tombs at Beni Hasan are illustrations of men sitting and kneeling in the act of flaking flints. They hold the implement on which they work in one hand and a tool known as the "fabricator" or the "chopper" in the

FIG. 3.

other. In front of them are small square blocks into which they seem to dip the chopper. Some of these blocks are higher than others and although no hollows are shown—perspective drawing being unknown—they may conceivably represent pots or bowls made of limestone, marble, or some other soft stone. By some archæologists they are held to be anvils, and no one has given a different solution. This, however, I can scarcely believe possible. For a flint, if properly flaked, must have free play for

the force of percussion to radiate in the direction of the blow. To place it on an anvil would be fatal to successful cleavage, as the blow would then only take effect in the direction of the point of contact with the anvil and probably crush it. Might not these so-called "anvils" be just such pots as the one discovered by me? They would serve various purposes, to temper the sun-scorched side of a nodule, to cool the chopper, to cleanse it from accumulated grit and the like. Pots of this type used in the flint manufacture would become traditional and we need not feel



FLINT FLAKERS FROM THE XII^TH DYN. TOMBS AT BENI HASAN

FIG. 4.

surprise to see them figured in tombs of a later age. I give above a tracing of some of the Beni Hasan drawings in Fig. 4.

An incident occurred in connection with this find which illustrates very forcibly the natural archæological instinct of the Arabs, and also their love of fair play. I had established the custom of presenting prizes of 5 and 3 piastres (1*s.* and 7*d.*) each at the end of the day for the best flint and the most peculiar type or rarest example brought to me. This stimulates both men and boys to do their utmost and helps them to take a real interest in the game. The prizes were awarded after the assorting of

each day's find, and Fig. 5 shows the men at work in our camp in the upper reaches of one of the "wadies."

On the occasion in question after the flints had been assorted and prizes duly distributed I explained my find to the men and its probable use. They were immensely interested in the description and one of them, an old Hadjé, immediately suggested that a second 1st Prize should be awarded to me, and actually began to make a collection then and there.

FIG. 5.

But to resume the account of the progress of my researches: it is a great help in such a quest to have some theory to work on and to know more or less what you are looking for—granted always that the objects are there. As my theory developed I went farther afield and in subsequent expeditions up the hills of the limestone plateaux I picked up several additional types of the same kind, some in limestone and flint, and a few in chert. It is of importance to note that they were always found on

the site of an implement "factory" of the palæolithic age. Photographs of the limestone vessels will be found in Plates X, XI, and XII. I have grouped and photographed the natural hollow flint nodules on two plates by themselves and described them under the heading of:

Flint Origin of Pottery

All these vessels resemble the earliest flint implements in their marks of age, and with the exception of the bottom parts of a few which were found embedded in the sand and in situ, not only the natural crust of the nodules themselves, but also the cleaved sides have the same dark patina as the palæolithic implements with which they are associated in their distribution.

The cavities thus produced by natural means would hold water readily, and it was no doubt the sight of these natural vessels that first prompted the palæolithic man to an artificial adaptation with the same purpose in view. It is but a step from these primitive water holders to the limestone vessel to which I have already referred and the others which I am about to describe.

It was not till late on in the season, in June, when preparations for my return to England had already been completed, that, making a last visit to the desert, I lighted on the bigger collection.

Early one morning—and one starts before 5 o'clock at this season in Egypt to be ahead of the sun and escape the demoralising effect of the heat—following up a track from the river, which we had struck into soon after landing near El-Mallah, I was surprised to find it leading, some five miles inland, across traces of a road made in a primitive manner by clearing the stones from the desert and piling them up on either side. We

PLATE V.

FIG. 1.—A section of two layers of flint with chert in between. The latter being softer is partly eroded at one end, and forms the hollow three inches deep.

FIG. 2.—Boulder, showing signs of having been worked on two sides, probably the marks of cleavage from a larger body; it has a deep and semi-circular cavity.

FIG. 3.—Cleavage on face side with good round hole.

FIGS. 4 and 5.—Like FIG. 3, but parts of the cavities are cut into by the cleavage.

FIG. 7.—Well shaped, with a deep round cavity.

FIGS. 6, 8, 9, 10, 12, 13.—Flattish flint boulders with shallow cavities; one in chert, and showing signs of cleavage on sides and bottom.

FIGS. 15 and 16.—Well shaped nodules with uniform cavities.

FIGS. 18 to 22.—Nodules with cavities of various types. Some show cleavage at the sides, others at the bottom.

PLATE V.

THE ORIGIN OF POTTERY

FLINTS

PALAEOLITHIC PERIOD EGYPT

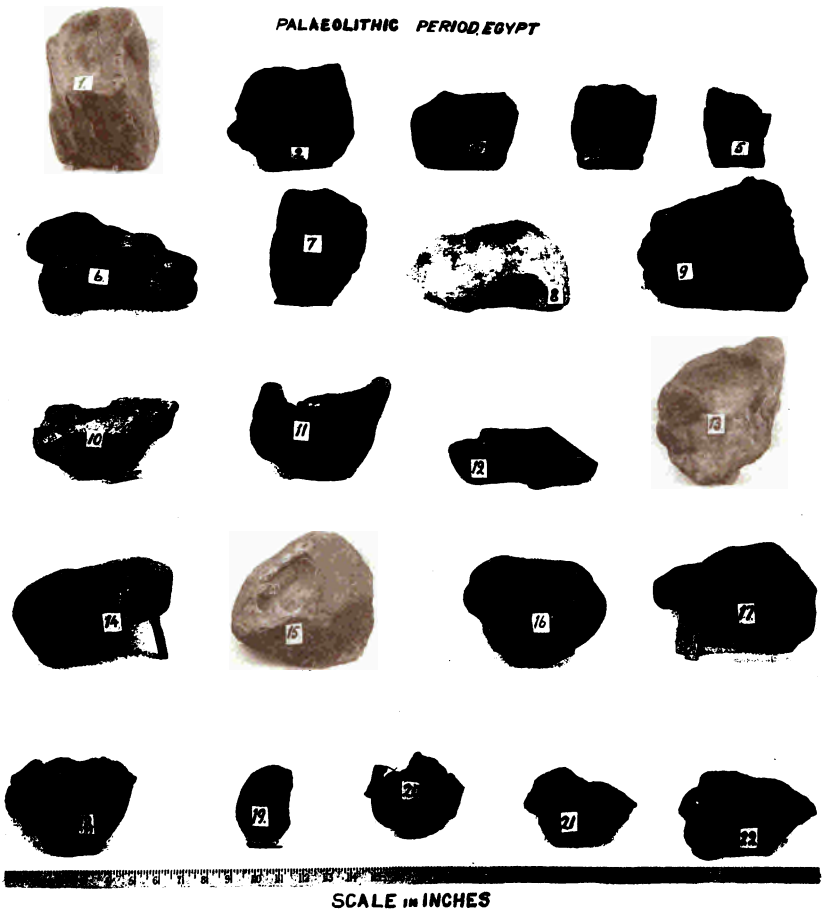


FIG. 1.—Cover-hook showing the cord in section over the hook.
round the edges and hooks; the brackets of cast-iron are thereby
shape of a crook. FIG. 3.—Is hook-shaped, and the overlap fastened
with a piece of the body of the hook, filed smooth.
FIG. 4.—Is for covering the joint between the hook and the cord in the
same manner.
FIG. 5.—Flat with projecting edges.
FIG. 6.—Flat with projecting edges and closed ends, used for hooks.
FIG. 7.—Is a large square hook, used chiefly for [illegible].
FIG. 8.—Is of the same shape as [illegible] at one end.
FIG. 9.—[illegible]

PLATE VI.

FIGS. 1 to 6.—Hollow nodules showing the concentric siliceous crystallisation round the original bodies; the breaking-off of one end gives them the shape of a vessel. FIG. 1 is horn-shaped, and the evenly fractured surface of the edge round the hollow is polished smooth.

FIG. 7.—Chert, but owing to a bad position the hollow is not seen in the photograph.

FIG. 8.—Flint with tray-shaped hollow.

FIGS. 9, 10, 11.—Having deep holes and cleaved sides, some well finished.

FIG. 12.—With large square hole, and cleavages on two sides.

FIG. 13.—High oblong-shaped nodule, with a shallow cavity at one end.

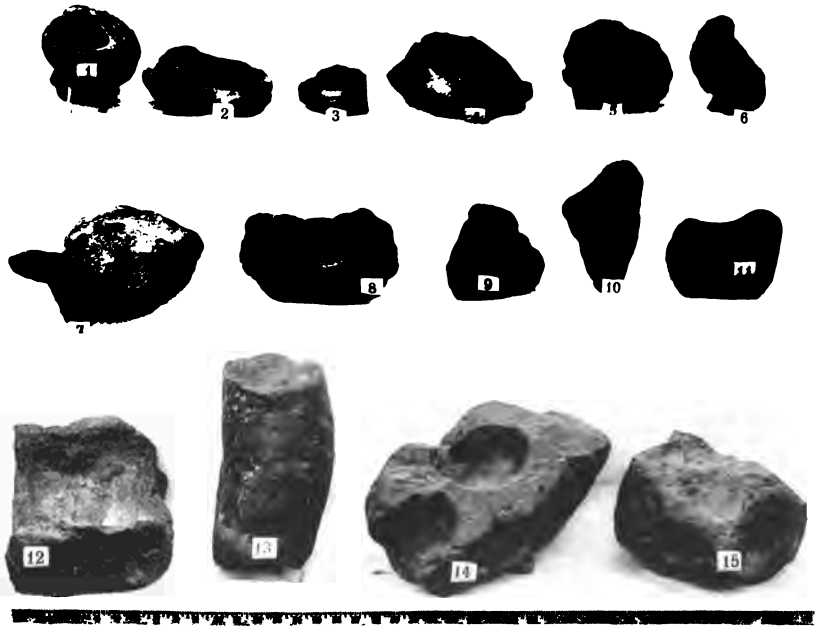
FIGS. 14 and 15.—Large nodules with well shaped cavities.

PLATE VI.

THE ORIGIN OF POTTERY

FLINTS

PALAEOLITHIC PERIOD EGYPT



SCALE in INCHES

accordingly followed this road which led due west and gradually improved, until at the end of another five miles it reached the foot of a mound about 100 feet high, seen in Fig. 6, resembling an Asia Minor tumulus. Here it gently rose to the summit

FIG. 6.—Taken from the higher mound looking eastward straight down the road towards the Nile.

and was lost in a mass of loose stones. Close by the summit within fifty yards rises another smaller mound, separated by a shallow dip.

The summit of both mounds bore distinct traces of tentative

workings, as may be seen in the photograph from the mass of débris and loose stones in the foreground. A few fragments of crude Roman red clay pottery lay scattered about the surface. These "tumuli" were in all probability tombs, and the pottery may be some indication of the period when they were rifled. It would be futile in the absence of any further evidence to build up any theories as to the date of the tombs

FIG. 7.—The summit of the same mound again taken from the lower one close by; the foot of the Eocene formation can be seen in the background.

themselves. A number of rough axe head-shaped flints were found on the surface of the drift formation on both sides of the road.

Continuing our journey for six hours through the winding valleys of the western hills we found a fair number of good flints, and finally reached the head of a wady, probably some 1,000 feet above the Nile, where the country widened out and assumed a more habitable appearance, as will be seen in Plate VII and Fig. 8.

PLATE VII.

PLATE VII.

On both sides of the valley could be seen many natural "Troglodyte" holes, some measuring three feet in diameter, hollowed out, as one might think, in the limestone formation high up the hill-sides as a protection against wild animals. They had much the appearance of the dug-out rock shelters of the lake dwellers in the Rhône valley in Switzerland and at Tcheatura near the legendary Colchis in the Caucasus. Here

FIG. 8.

and there, too, were caverns worn into the footwall of the hills by the weathering away of the softer layers. The last mentioned plate and Fig. give a good idea of some of these, with my men taking shelter from the sun.

In exploring the hill seen on the right-hand side in Plate VII, making the circuit of it from the east to the west (the east side is seen in the photograph), I came upon five small limestone vessels, but the slope of the adjoining hill, a little further up to the west, soon afterwards yielded me my most important find.

The vessels here were in a pell-mell state as if they had been brought together in a hurry, but since the stratum of good compact limestone, from which one must suppose them to have been hewn, runs right through the hill, and as, on further examination, no trace of any more vessels could be found on either of these hills or in their neighbourhood, it would seem that they had been gathered from all round the hill. A possible explanation of this may be that a raid had been made on this "factory" by some more powerful tribe, which in turn had been surprised and forced to abandon a part or the whole of their loot. If so, how long ago this happened it is impossible to say, but certainly before the neolithic period, when, with the advent of pottery, these heavy and crudely finished vessels must doubtless have become obsolete.

This site was undoubtedly then a "factory" of limestone water vessels, and the halting place in the valley below, where we took shelter, probably served as the distributing centre for this particular kind of ware. It is probable that these vessels were hewn out with palæolithic flint implements, and indeed two axeheads were found near the cluster; otherwise there were none to be seen on either of the hills in the immediate vicinity. In the majority of cases they appear to have been cut out of larger blocks. For, although they show no traces of tool-marks on the surface, their angles are the angles of cleavage, not of natural formation. Moreover, the shapes of many are symmetrical, square, triangular, and oval. They have been cut inside and out in contradistinction to the hollow flint nodules which, although they show signs of cleavage on the outer surface, still keep their natural cavities. Thus these limestone examples were a distinct step in the treatment of the material of vessels and bear more legibly on their surface the traces of man's work.

PLATE VIII.

PLATE VIII.

This larger group, in which I counted about forty vessels, is seen in the above Plate VIII.

PLATE IX.

PLATE IX.

In Plate IX the large cluster in question will be seen in the centre, and on both sides of it is the limestone stratum referred to.


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PLATE X.

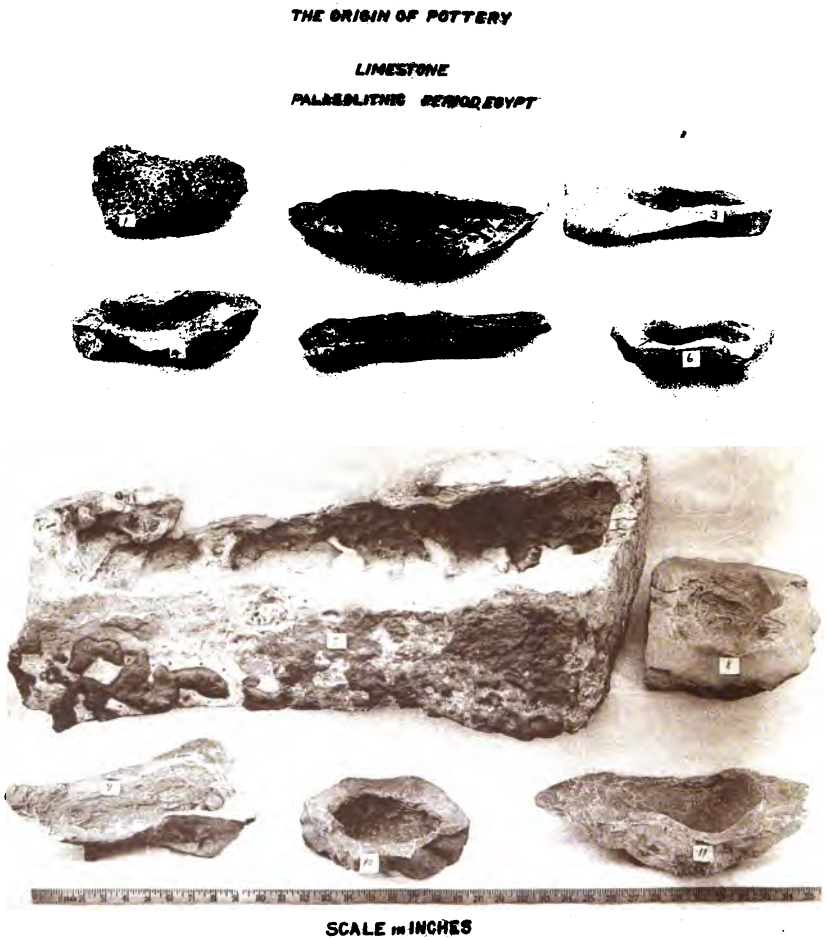
THE ORIGIN OF POTTERY
LIMESTONE
PALÆOLITHIC PERIOD EGYPT
SCALE in INCHES

PLATE X.

FIG. 1.—A piece of the surface country rock, very porous limestone.

FIGS. 2, 3, 4, 5, 6.—Very shallow irregular tray-shaped vessels.

FIG. 7.—Very large oblong shallow trough 30 inches long, well shaped, and hollowed out. Erosion has somewhat damaged one side.

FIGS. 8, 9, 11.—Irregularly shaped, but relatively deeper than the foregoing.

PLATE XI.

THE ORIGIN OF POTTERY

LIMESTONE
PALAEOLITHIC PERIOD, EGYPT

SCALE ¼ INCHES

PLATE XI.

FIG. 1.—Again a piece of the country rock, resembling the vessels in their stage of erosion.

FIG. 2.—A deep hollow pot crudely shaped.

FIGS. 3 to 8.—Shallow and crude.

FIG. 9.—Triangular in shape, with deep round hole.

FIG. 10.—Well shaped and finished with a good deep cavity, the first of the limestone series found.

FIGS. 11 and 12.—Do., but inferior in finish.

FIGS. 13 to 19.—Various types and states of preservation (Fig. 18 is in chert).

PLATE XII.

THE ORIGIN OF POTTERY

LIMESTONE

PALAEOLITHIC PERIOD EGYPT

SCALE IN INCHES

PLATE XII.

FIG. 1.—Another piece of the country rock much eroded.
FIG. 2.—Oblong piece with deep oval hole, much eroded like Fig. 1.
FIG. 3.—Irregularly shaped, with round cavity, probably not finished.
FIG. 4.—Do., with oblong cavity.
FIG. 5.—Triangular, good round cavity and well preserved.
FIG. 6.—Oblong, one end damaged through erosion.
FIG. 7.—A good large square pot.
FIG. 8.—Ovoid in shape, with a symmetrical cavity and hole. Well preserved.
FIG. 9.—Chert, shallow cavity.
FIG. 10.—Square flint, with cavity in one corner, probably not finished.
FIGS. 11 and 12.—Different shaped pots, well preserved, and with good deep cavities.

I have photographed in Plates X, XI, and XII most of the vessels that were fit for carriage, together with others picked up on previous occasions. Of the others many were so eroded and porous that they broke up during transit, and the rest were already practically decomposed and spread into powdered quicklime at the contact of a hand. It is due to the Egyptian climate that they have been preserved so long ; under different conditions chemical action would have dissolved them long ago. But there is little rain in Upper Egypt, perhaps on an average an eighth of an inch in five years, and the dryness of the air combined with the great power of the sun's rays renders these few drops of little effect. But in the course of countless ages, even these doubtless make their mark on carbonate of lime "non vi sed sæpe cadendo."

A well defined erosion resembling undercut will be noticed about most of the scooped-out cavities. This is probably due to the continued action of the water on the lower part of the interior. Most of the vessels were found in an upright position as may be seen in Pl. VIII. Where they had slanted to one side or the other, the water had worked its way and worn holes or cavities in the side. (*Cf.* Pl. XII, Fig. 6.) Where the air had free play, the surface would be fairly well preserved, and in this way the parts about the aperture would gradually form a kind of rough rim, which in the natural course of development would become the "neck" which we find in the vessels of the neolithic and later period. Although in shape these vessels resemble certain small concretionary formations often occurring in ironstone and other minerals, it is evident that they were made by man, and possibly constitute some of his earliest handiwork after the flint implements themselves. I think there can be little doubt that they were intended to hold water in cases where rigid as well as strong

and open vessels were required and the ordinary water skins, which may have existed even then, could not be used. One such use I have suggested in connection with the flint implements with which they are associated. But they have an even more noteworthy significance in connection with the subsequent development of portable vessels of a different kind, and form an important link in the evolution of pottery.

At one time I held that the origin of pottery could be explained in this way. Primitive man accidentally made or found a hollow in soft clay soil, and noted that, when dried in the sun, it held water. It would be but a short way from drying in the sun to burning in the fire, and this would constitute a reasonable beginning for the art of pottery. Or it may be the hard shell of a nut, which in some cases actually does contain liquid in nature, gave the first suggestion. An article in one of the papers last April suggested that the first hint came from the clay-lined nests of birds. But here in these hollowed-out flints—a silicified spongy growth—(see Plates V and VI) Nature herself provided ready-made "pottery," which it was an easy task for man to adapt to his uses. As then in Egypt primitive man did actually so use the gifts of nature, it is more profitable to argue upon that of which we have tangible evidence than to speculate on the legion of other causes which might have led to the same result.

From these primitive and crude stone vessels to others of the neolithic period, manufactured both in stone and clay long before the advent of the potter's wheel, the evolution is only one of finish and elaboration. For we find traces of the same types in both periods. In Plate XIII, I give for the purpose of comparison a few representative types from Gebelên, Bessalia, and Nagâda, in my collection.

From the foregoing series of plates it will be seen how

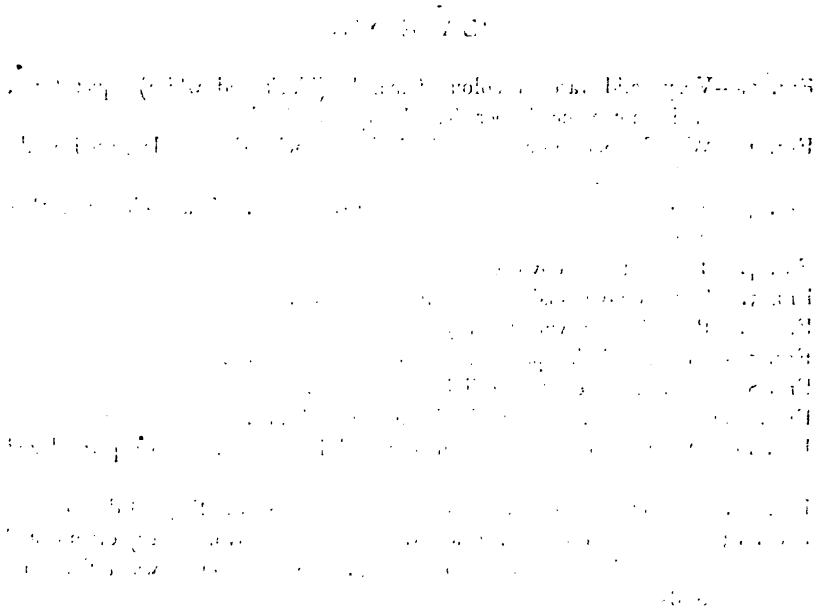

PLATE XIII.

FIG. 1.—Very solid vase of coloured marble (black and white) squat form, cavity not much deeper than the aperture itself.

FIG. 2.—Well finished limestone, spherical vase, with rim and large uniformly undercut cavity.

FIG. 3.—Spherical vase of red clay and primitive design. Water-lines in darker colour.

FIG. 4.—Thin red clay bowl with red glaze.

FIG. 5.—Large oblong shallow clay dish, unglazed.

FIG. 6.—Red clay cup with black glazed rim.

FIG. 7.—Fire baked clay pot black throughout, unglazed.

FIG. 8.—Small unglazed dish in light brown clay.

FIGS. 9 and 10.—Red pottery with black glazed brims.

FIG. 11.—Well shaped and well made vessel in red clay; upper part glazed black.

FIG. 12.—Cylindrical light-coloured clay pot, with brown diagonal designs.

FIGS. 13 and 14.—Two well made vases in light brown pottery ornamented with designs in darker colour; fig. 14 with gazelles, water-lines and birds.

PLATE XIII.

THE EARLIEST KNOWN POTTERY

NEOLITHIC PERIOD EGYPT BEFORE B.C. 4400

SCALE IN INCHES

the hollow flint nodule was copied during the palæolithic age in limestone, from which again evolved other stone, and finally the clay vessels of the predynastic period.

Most of the forms of the early limestone vessels are traceable in their offspring of the latter period. Take for instance the shallow palæolithic trays in Plate X; they have their prototypes in the neolithic predynastic stone and clay dishes of which some are seen in Plate XIII. Again, the squat forms seen in Plate XI find their counterpart likewise; see Plate XIII, wherein the well preserved "rims" and undercut of cavities from erosion are practically copied in the scooped-out spherically shaped vases of the neolithic age, where a faintly discerned rim is noticed in fig. 1.

The higher ovoid vessel, fig. 8 in Plate XII, resembles in principle figs. 7, 10, and 11 in the neolithic Plate XIII. And it is only at a much later period that the evolution of the neck is noticed commencing with the shaping and raising of the humble rim above the body of the vessel itself.

To sum up my conclusions, I have found in Upper Egypt among flint "factories" of the palæolithic age as it existed in that country a number of vessels of limestone obviously modelled on the natural hollowed flint. They are evidently the handiwork of primitive man, and I have given already some suggestions of one of their possible uses. In shape they are the prototypes of vessels of the neolithic period, and provide a reasonable basis on which to erect a theory of the origin of pottery.

Their exact age of course depends on the conclusions to which we come with regard to the palæolithic age in Egypt. Now whether the cradle of mankind should be placed in Upper Egypt, Central Africa, or Arabia, it is undoubtedly a fact that few countries have shown a better claim to continuous habita-